

09/980940
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Yasushi NOGUCHI et al.

Serial No.: New Application

Filed: December 6, 2001

For: METHOD OF PRODUCING CORDIERITE CERAMIC HONEYCOMB

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application,
please enter the following specification changes as noted below:

IN THE CLAIMS:

Please amend claims 3-8 as follows:

09/980940-030102

3. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than $0.4 \times 10^{-6}/^{\circ}\text{C}$ and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than $0.6 \times 10^{-6}/^{\circ}\text{C}$, in a temperature range from 40°C to 800°C .

4. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than $0.3 \times 10^{-6}/^{\circ}\text{C}$ and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than $0.5 \times 10^{-6}/^{\circ}\text{C}$.

5. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a porosity of the cordierite ceramic honeycomb is larger than 30%.

6. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein lauric acid potash soap is used as the forming agent.

7. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a temperature descending rate from the maximum temperature to 1250°C is not larger than 50°C/hour.

8. (Amended) The method of producing a cordierite ceramic honeycomb according to claim 1, wherein a temperature maintaining time at the maximum temperature is not less than 6 hours.

201008-01698680

REMARKS

Claims 1-8 remain herein.

This Preliminary Amendment is submitted to eliminate multiply dependent claims from the above-identified application.

Examination of this application on its merits is respectfully requested.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P.

6 Dec 2001
Date

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Attachment:

Mark Up of Amended Claims

RWP/ame

Attorney Docket No. NSUG:848

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Claims

1. A method of producing a cordierite ceramic honeycomb comprising the steps of: preparing raw materials becoming cordierite and forming agents; adding the forming agents into the raw materials becoming cordierite; mixing the forming agents and the raw materials to obtain a raw material batch; extruding the raw material batch to obtain a formed body; drying the formed body; and sintering the formed body after drying; so as to obtain a honeycomb structural body having a cordierite crystal phase as a main ingredient, wherein, at the sintering step, a temperature descending rate at least from a maximum temperature to 1300°C is not larger than 100°C/hour.

2. The method of producing a cordierite ceramic honeycomb according to claim 1, wherein quartz is used in the raw material batch becoming cordierite and alumina having an average particle size larger than 2 μm is used.

3. The method of producing a cordierite ceramic honeycomb according to claim 1 or 2, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than $0.4 \times 10^{-6}/^{\circ}\text{C}$ and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than $0.6 \times 10^{-6}/^{\circ}\text{C}$, in a temperature range from 40°C to 800°C.

4. The method of producing a cordierite ceramic honeycomb according to ~~one of claims 1-3~~ claim 1, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than $0.3 \times 10^{-6}/^{\circ}\text{C}$ and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than $0.5 \times 10^{-6}/^{\circ}\text{C}$.

5. The method of producing a cordierite ceramic honeycomb according to ~~one of claims 1-4~~ claim 1, wherein a porosity of the cordierite ceramic honeycomb is larger than 30%.

6. The method of producing a cordierite ceramic honeycomb according to ~~one of claims 1-5~~ claim 1, wherein lauric acid potash soap is used as the forming agent.

7. The method of producing a cordierite ceramic honeycomb according to ~~one of claims 1-6~~ claim 1, wherein a temperature descending rate from the maximum temperature to 1250°C is not larger than 50°C/hour.

8. The method of producing a cordierite ceramic honeycomb according to ~~one of claims 1-7~~ claim 1, wherein a temperature maintaining time at the maximum temperature is not less than 6 hours.

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